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GENESEE FARMER.

SATURDAY, JANUARY 28, 1837.

Knowledge of Plants applied to Farming and Gardening.

The chief advantage of a scientific knowledge of plants is, that it teaches the *general laws* of vegetable economy, and we are enabled to apply this knowledge to a great variety of cases which occur in practice. Instead of being under the necessity of ascertaining by expreiment, a great number of facts, we determine a general principle by experiment, and this general principle serves as a foundation, from which we may at once judge of the truth or error of any thing which may be directly referred to it. We hope it may be interesting to the younger class of our readers at least, to take a very brief view of the science of Botany, and the manner in which botanical knowledge is applied in practice.

Botany is that part of natural history which treats of *plants.* The term *plant*, in its most proper sense, applies to every thing in the vegetable kingdom, from the smallest herb which we tread upon, to the largest forest tree. It in includes every thing from the minutest moss upon the rocks, to the gigantic pines upon our western coast, of sixteen feet diameter and two hundred and thirty feet in height.*

The number of different plants which botanists have already named and described, amounts to nearly sixty thousand; hence, without scientifie arrangement, such a vast multitude would be but an inextricable mass of confusion. Plants are accordingly divided into classes, classes into orders, orders into genera, and genera into species; those being placed in the same divisions or groups which have some common, fixed and leading characters or resemblances. Without this arrangement, if an unknown plant should occur to us of which we should wish to determine the name, it would be as impossible to determine such name by description, as it would be to find a word in a dictionary without arrangement. We would have to turn over many thousands before we might chance to find the right one. But by means of arrangement we turn directly to the description, in the same way that we turn directly to the definition of a word in a dictionary by means of the alphabetical order of its arrangement. In determining the name of a plant, we first find the class to which it belongs, then the order of this class, then the genus of this order, and lastly the species of this genus. All plants belonging to the same species, are considered to have originally sprung from the same seed. Consequently if there are different varieties belonging to a species, they must have been produced by changes in successive generations of that species. But the seed of one species can never so change as to produce plants belonging to a different species. For instance, the pear and the apple belong to the same genus, but to different species; consequently seeds of the pear can never so change into varieties as to produce apple-trees; nor can seeds of the apple ever produce pear-trees. There are many different sorts of apples, which are all varieties produced by a change in the original seed of the species, but no change of this kind in any species can ever produce a different species. Hence, if a farmer should hear the opinion advanced, that one plant may deteriorate or in any way be transmuted into another plant, he should ascertain whether the two named plants belong to the same species or not; if they do not, he may be confident that such transmutation can never take place. If they are found to belong to different genera, the certainty of no such change, becomes if possible still greater.

The botanical or scientific name of a plant, is the name of the genus and the name of the species to which it belongs, joined together; thus, the name of the genus to which the apple belongs, is *Pyrus;* and the name of the species is *malus;* consequently the botanic name of the apple is *Pyrus malus.* The pear also belongs to the genus Pyrus, and the name of the species is *communis;* therefore the botanic name of the pear is *Pyrus communis.* The terms *apple* and *pear*, are the English or common names. There is a great advantage in being able to ascertain the botanic names of plants, as well as in making use of them instead of English names (except in the most common of all plants as the apple, pear, currant, &c.) Many plants which are very useful, either for medicine, food, or other purposes, are known in different parts of the country by very different English names; and often the same name is applied to very different plants; thus a name which in one place might be applied to a valuable and useful plant, might in another place be applied to one which possesses no useful properties, or even to one extremely poisonous. Hence the use of English names only, is sometimes attended with dangerous consequences. But in all countries botanists make use of the same botanic names, and such difficulties are thus prevented.

Plants are supplied with nourishment in two ways. The first is what they absorb at the roots through the *spongioles*, which contain a great number of exceedingly small pores. The nourishment which the plant receives in this way is water, with the different substances which are dissolved in it, such as the soluble parts of manures. As soon as it is absorbed, it passes to the trunk or stem, and ascends in it through the sap vessels, which are very fine tubes running lengthwise through it, as well as thro' all the branches, the stems, and small veins of the leaves. These vessels or pores may be seen easily with a good microscope, by shaving off a thin cross slice from the stem of a plant or from a piece of wood. While this liquid is thus ascending, it is called the *sap.* It passes into the branches, and thence into the leaves, which being flat and thin, expose it to the light and air, and it then undergoes a complete change; the greatest part of the water of the sap passes off into the air in the form of vapor, through very small pores in the surface of the leaf; at the same time, a part of the air is taken into the leaf, and unites with the remaining sap, so as greatly to change its nature and quality, and it is now no longer sap, but is called the *proper juice;* and this is the second way in which nourishment is supplied. It now begins to flow down the branches and stem of the plant through another set of tubes or vessels, and is gradually converted into the solid parts of the plant. Thus we see that a part of the nourishment is taken in at the roots, and a part at the leaves; but *all* the nourishment which every plant receives, must pass through the leaves, before it can be changed into wood. Hence we see that the leaves of plants are quite as important to them as their roots. The knowledge of this principle has a vast number of applications in practice, some of which are of great importance. It teaches us that mutilating plants by stripping them of their leaves while in a growing state, is always an injury to them; hence the stripping of the leaves of corn for fodder, which is in some places practiced, should never be resorted to, nor should the practice of topping corn be pursued for the same reason; hence also the practice of cutting off the leaves of mangel wurtzel for feeding cattle, before the roots have attained, or nearly attained, their full size, should not be adopted. But in some cases the leaves are the chief crop, as in the mulberry for silk; in such case it is necessary to avoid stripping them too closely or frequently, in order that the growth may not be too often nor too suddenly checked. The knowledge of this principle also teaches us an easy way to destroy hardy and pernicious weeds. It has been commonly supposed that in order to destroy them, the *roots* must be destroyed; but this is not at all necessary; if we only destroy the leaves by burying them or cutting off the stems, it is plain their growth is stopped, and if this is continued the roots die. Many years ago, when it was found that the roots of the Canada thistle sometimes penetrate several feet into the earth, many despaired of ever being able to extirpate them; but if they had been acquainted with this principle, they would have known that the roots might have been easily killed by cutting off the supply of nourishment from above, which has since been very successfully done in a multitude of instances.

It is the *proper juice* (above referred to) which generally gives to plants all their useful properties in medicine dyeing, &c. hence it is necessary in extracting these substances to know in what part of the plant the proper juice is to be found.

The course of the small tubes or pores through which the sap and juices flow, may be seen in some plants by cutting off their branches with a very sharp knife and plunging the cut ends into colored water. Thus, if a branch cut from the *poke* be placed in a dye made from the Brazil wood, and put in a warm place, in a few hours the dye will be found to have run up the stem into the leaves, flowers, and even the fruit. The part of the stem which will be thus colored will show the place of the *sap* vessels. If now the *upper* end of a branch be cut, and plunged into the colored water, we shall be able in the same way to trace the course of the pores through which the proper juice descends. Some of these pores, however, cannot be discovered in this way, as they will not take in any colored liquor.

All the nourishment which a plant receives, is either by means of the water which is absorbed at the roots, or from the air which is absorbed into the leaves; all the wood in the largest and heaviest trees is formed in this way. The manner in which water and air is thus changed into solid wood, is indeed curious, but is readily comprehended by those who are familiar with the extraordinary changes shown by chemistry. The fact was very strikingly proved by a philosopher in Holland, who planted a willow weighing *fifty* pounds, in a quantity of earth which he also weighed and covered with sheet lead. He watered it for five years with puredistilled water; at the end of which time the tree weigted *one hundred and sixty-nine pounds and three ounces,* and the earth had lost only three ounces.

The quantity of water which passes off into vapor from plants through the leaves, is often very great. Dr. Hales found by very accurate experiments, that a sun-flower which weighed only three pounds, threw off in twenty-four hours, twenty-two ounces of water, or nearly half its own weight. In the same space of time, the Cornelian cherry (*Cornus mascula*) is said to throw off twice its own weight of water. On a warm summer's day, at a time when there had been no rain for several weeks, Dr. Watson placed a bunch of grass under a bell glass, and in two minutes the inside of the glass was covered with drops of water like dew which ran down its sides. By weighing the water, he ascertained the exact amount; and from this experiment he was led to conclude that in one day an acre of grass throws off nearly two thousand gallons of water. Some plants when cut wither much sooner than others, owing to the property they have of throwing off the water from the leaves with greater rapidity. Hence by trying this simple experiment, we

* The *Pinus Douglassii* upon the banks of the Columbia river, forms extensive forests and grows to the height of two hundred and thirty feet, and is upwards of fifty feet in circumference at the base. The *Pinus Lambertiana* grows in Northern California, but does not form dense forests. One tree which had blown down, measured 215 feet in length, 57 feet in circumference at 3 feet above the root, and 17 feet 5 inches at 134 feet above the root. Some of the standing trees were evidently taller.

may find at once how much watering different cultivated plants require. Hence too, the reason why plants may be removed and transplanted with greater success in damp weather when the leaves give off but little water, than in dry weather when they throw it off rapidly. Hence, too, the reason why, in transplanting trees, if the roots are mutilated and diminished, it is also necessary to reduce in proportion the branches, in order to prevent the leaves throwing off moisture faster than the roots can supply. Hence, also, the reason why mown grass is changed into hay in a few hours in dry weather, while in damp weather no efforts of the farmer will enable him to succeed. The great quantity of water given off by plants, will teach us to avoid the blunder which some people make, of leaving weeds to grow round plants for the purpose of shading them and prevent the ground drying, when in fact they carry off a much greater quantity of water than would dry off the bare earth, besides diminishing the fertility of the soil. Some plants, however, give off but little water, as some kinds of moss, and may therefore in some cases be properly employed in shading the ground.

Thus, by the study of this science, farmers and gardeners may find the reason for the different operations they perform; and may very often know, or be greatly assisted in determining, what is necessary and what is not necessary for their success. At the same time they will be enabled to guard against mistakes, by which great injury is often done when least intended.

CHOKED CATTLE.

As there are many who do not make use of root slicers, accidents sometimes occur by cattle becoming choked, and in such cases it is important to have a speedy and effectual remedy. We believe the most common remedy is that of ramming the obstruction down the throat with a flexible stick or whip-stock. A tarred rope 3 or 4 feet in length and from three quarters of an inch to an inch in diameter would be much better, and much less attended with dan- ger. But such a rope is rarely at hand where such acci- dents occur, and it is very hazardous to use a stick or whip-stock, as on account of its stiffness it not unfre- quently is pushed aside by the obstruction and immediate- ly pen etrates the fleshy part of the throat to the certain death of the animal. There is another mode which we have see n tried in many cases, and always with success where it can be applied. It is this. Two persons seize the animal by the horns and hold it firmly, another per- son thrusts a plough clevise into its mouth in such a man- ner as to hold its mouth open and leave the space between the two bars of the clevise for another person to thrust his arm through, and down the animal's throat in order to grasp and withdraw the substance lodged there. Before the arm is thrust down, it is necessary that the animal's tongue be drawn out of its mouth as much as possible in order to make the passage free. If tools and materials are at hand, a contrivance may be made in two or three mi- nutes, which is much better than a clevise, and will sup- ply its place. It is made simply of two blocks of wood about three inches square, with two thin boards, nailed on their opposite sides, so as to leave a space between the blocks for the hand to pass through; the boards project- ing beyond the blocks, form handles to hold it more firm- ly. It is necessary that the arm be stripped bare, and thrust fearlessly down, sometimes almost to its whole length, before the obstruction can be laid hold of. The only case in which this method cannot be applied, is when strong and firey animals are choked, which cannot be held sufficiently still. But perhaps this might be over- come by tying them firmly.

ITEMS.

Gen. Tallmadge, now on an extensive tour in Europe, in which particular attention is devoted to agriculture and manufactures, while at St. Petersburgh, obtained a small quantity of the seed of the celebrated Indigo plant, from Tifflis. It is thought the introduction of its culture will be very beneficial to this country.

The Russians are entering largely upon the manufac- ture of cotton, and bales of cotton from New-Orleans are plenty at Moscow. American cotton machinery and competent machinists are in great demand in that coun- try. The head man of the largest machine establishment at Manchester, and perhaps in the world, is an American; and the principal manufacturer employed by the king of Prussia is an American also.

It is stated that the value of the leather manufacture alone, in Massachusetts, is worth fifty-two millions of dollars annually.

At a late sitting of the French Institute, M. Delong presented to that body several masses of *solid air* prepar- ed by the celebrated chemist M. Thioren. It was white, resembling closely pressed snow, and the members could touch and handle the specimens and see them dissolve into thin air, leaving not a trace behind. The cold pro- duced by contact with the pieces was extraordinary, equal- ling 90 degrees below zero, and congealing mercury and spirits of wine in an instant. It was obtained by subject- ing carbonic gas to a pressure of 60 atmospheres, which reduced the air to a liquid form. This fluid was allowed to escape through a very small orifice, when it assumed the form of a snowy vapor, wns collceted in masses, and preserved in glass vases. This is indeed a triumph of science and skill.

Ruta Baga—Robbins' Corn Planter.

Extracts of a letter from a subscriber at Navarino, Onondaga county:

"I have this year raised about three-fourths of an acre of ruta baga, which produced about 400 bushels. The season I think has been unfavorable for them, and I think I made the rows too far apart (three feet.) I was a little more than an hour planting the piece with one of Rob- bins' Corn Planters, which I consider in the hands of an experienced person, a good machine; but I cannot ap- prove of the extravagant price which is demanded for it. Five Dollars I consider a fair price, and Fifteen Dollars is the price demanded. It is a labor-saving machine, and should be sold at a fair price. The exorbitant price which is commonly demanded for new labor-saving ma- chines is undoubtedly one principal cause why they are not sooner purchased by the generality of farmers.

The Revolving Horse Rake.

Before closing this communication I wish to bear tes- timony to the utility of the Revolving Horse Rake, both as it respects a saving of labor and a dispatch of business, at a time when labor is not easily procured.

Change of Opinion.

A few words respecting the Chess controversy, and I will close. When I commenced reading the Farmer, which was at the middle of the third volume, I was a be- liever in the doctrine of transmutation. Or in other words I held to the absurd opinion that wheat would turn to chess. I have since become a convert to the more ra- tional doctrine that to every seed is given its own body. And I now find that I gather wheat from wheat and chess from chess. The last season I harvested a field of wheat which was sown with seed nearly clean. In some parts of the field the wheat obtained a good growth. In other parts it was partially, and in some totally killed by the winter, yet I could discover no more chess in one part of the field than in another, and *very little in any*.

Management of Bees.

We some time since copied from a New York paper a notice of a quantity of Honey exhib- ited at the Fair of the American Institute by Messrs. Wilcox & Cone of West Bloomfield. The following particulars of their management of their Bees, they have furnished in answer to a letter of inquiry from the editor of the Vermont Chronicle:

"Our hives are of almost all descriptions com- monly used, having bought many of them. We prefer the smaller sizes, such as will hold about thirty pounds of honey when well filled, as that will be sufficient to winter a common swarm, and such hives swarm the most. We procure our honey from a box of about seven inches square, placed on the top of the hive. The box should be made to fit very close to the hive, and no communica- tion out of it only through the hive. The hole should not be less than three inches square. These should be put on the old hives, before the Bees begin to gather from white clover, and on the young swarms when they are first put into the hives. In this way instead of the Bees lying on the out- side of the hive, idle, as they commonly do, they have room within the box, where they continue to build, and gather, till they are ready to swarm. Many of our swarms do not work on the boxes at all; but by boxing them all, we average from seven to sixteen pounds, from every old swarm. Last year we got over sixteen, it being more than a com- mon season for honey.

We have not been troubled much with the moth; having so many hives together the birds keep them mostly subdued. We think it the best plan, to raise the hive so that the Bees can just pass out all round the hive; they keep the bottom board clean of comb dust, so there is less chance for the millers to de- posite their eggs, where they will not be destroyed. Care should be taken to kill all that can be found on and around the hives every day or two.

We use no means to furnish our bees with food, excepting to feed some light swarms towards spring; which we do, by putting comb filled with honey, in the box on the top of the hive. Bees flourish, the best, where thereis plenty of Elm, Sugar Maple, and Basswood, and where the soil is natural for white clover. Elm and Maple blossom early in the spring; after the spring flowers are gone Bees stir but little until white clover begins to blossom; if it fills well with honey, Bees soon fill their hives and begin to swarm; if not they swarm late, and the swarms stand a poor chance; the Basswood and Buckwheat are the principal flowers they have to gather from. Sometimes there are honey dews which help them much.

Our box honey, which is pure and free from bread, is gathered principally from Clover and Basswood blossoms.

Our hives stand in the same situation winter and summer. We are careful to have the tops secured so as to keep the snow and water out and not admit a draught of air through the hive. Every hive should have a three quarter or half inch hole from four to six inches from the bottom, in front, to af- ford air in winter. In very cold weather frost accu- mulates in the hive, from the breath of the Bees, and in mild weather it melts and runs down to the hole at the bottom and freezes to ice and shuts out the air if their is no other air hole. Many Bees are smothered greatly for want of this knowledge. Bees winter the best in straw hives, but do as well in summer in board or tub hives.

There is a variety of opinions on the subject of bees, owing we think to their being so liable to change. Two swarms in the spring may stand side by side, and to appearance, be equally good; one may prosper well, the other dwindle away and die; or they may both swarm equally well, and one a few weeks after swarming be robbed; the other win- ter well.

Our reason for this is, that in swarming time, the Queen or Queens, if there be more than one (as there frequently is at this season of the year, but at no other,) all leave the hive with the swarms and leave but a few working bees and drones in the old hives; which, of course, without a queen, die. Sometimes they will guard their treasure till win- ter, and then die, and leave their hive well filled with honey.

After swarming is over, such hives as have swarmed out, we take up as soon as they are likely to be robbed, and save the honey. In October we examine our young swarms, and take up all that have not nearly enough to winter on. In this way we obtain much honey, and destroy none of our good swarms for increase.

P. S. In a statement of ours that was published in some of the New-York papers showing the amount of honey that we raised the past season, there was a mistake made by the editors. It was printed 700 pounds, but it should have been 3,700.

Agricultural Societies.

With well organized general and *sectional* soci- eties acting in harmonious concert with each other who can form any estimate of the vast flood of infor- mation that would be thus collected and brought to-

gether. Suppose each member of these societies were required to prepare a paper upon some particular branch of husbandry—or to detail his experiments in the culture of some one of the fruits of the earth: describe his mode of preparing his ground, sowing or planting his seed, his method of culture, and to give a statement of the results of his experiments. Suppose another were required to prepare a paper upon his method of preserving the articles which he might cultivate from the depredations of its natural enemies—that another should be required to furnish a statement of his manner of securing his roots from frost—another his experience in the most economical mode of feeding his stock, the manner of preparing their food and quantities given; another the best method of treating the diseases to which domestic animals are subject, the supposed cause of such diseases, preventive means to be used, as well as those of a remedial character. In fine that every one should be required to furnish some contribution to the general fund of information—and when these were thus collected, that they should be published through some common medium in each state, accessible to the whole community. We ask, can any one form even the faintest idea of the immense good which would result? Would not a spirit of inquiry and research go forth over the land, that would conduce to renovate the interests of husbandry in every quarter of our wide spread confederacy? And we would ask farther, is there any farmer or planter from the wealthy landholder to the more humble tenant, that could not furnish something to the general stock of intelligence thus to be collected and diffused? Again we ask, is there any that could not find leisure in the recess between the annual meetings of the societies, to prepare the papers in question? Is there any who would not feel pleasure in thus contributing to the general good? We will not stop to answer these questions, because their answers are too obvious to require it. Besides, who can form any idea of the intrinsic benefits which would result to the cause of agriculture, if at the annual meetings of the General Societies, a Cattle Show and Fair were held. Almost every one could furnish something for exhibition and in all probability would find a good market for a valuble animal that he could not expect or get at home. These annual Fairs would form a kind of neutral ground, whereon old friends would see each other, new friendships be formed, and a spirit of fraternity be engendered that would strengthen the very bonds of the Union itself; for of all things, free periodical intercourse between citizens, tends most to excite feelings of affection and regard, and to render those feelings lasting.—*Baltimore Farmer.*

Interesting to Silk Raisers.

The subscriber last spring planted a small field with the Morus multicaulis, or new Chinese mulberry, raised from cuttings of one bud each, say about three inches long, and observing that the trees had grown much larger than he expected, and had thrown out many side branches, and that the growth was, in every particular, so much larger than was anticipated, he thought a plain statement of facts relative to them, and their culture, might prove encouraging to Silk growers, and acceptable to the subscribers of the Farmer and Gardener. He invited his friend, E. P. Roberts, to ride over to the nursery, to see and assist in weighing some of said trees, which he did on the 31st ult., and in his presence three trees were taken up and weighed, the weight of which was 6 3-8 pounds, the average height above ground was 6 1-4 feet. On measuring a square rood, where those trees stood, the subscriber counted 84 trees, all five feet high and upward. On separating the leaves from the above three trees the produce was 2 1-2 lbs.; now if we say 2 1-4lbs. for every three trees, as a portion of them were of a smaller size than those weighed, it will give to each square rood 63 lbs., or per acre, 10,080 pounds of leaves the first season from cuttings; and a large portion of these leaves were produced in time for raising the second crop of worms. The land on which this crop of trees was raised, is a mellow loam on a clay bottom, from which, in 1835, it was estimated that I cut two tons of hay to the acre, and was manured last spring with about 22 horse cart loads of barn yard manure to the acre. Planted in rows 3 feet apart, and 9 inches in the row. ROBERT SINCLAIR.

Remarks by the Editor of the Farmer and Gardener.—We were delighted at the luxuriant growth of the Morus multicaulis plants mentioned in the communication of friend Sinclair, as well as with their very great yield of foliage. It has satisfied us that much of the objection which has heretofore been raised in the minds of those who would reap ere they have sown, against the mulberry culture, may be obviated if the Morus multicaulis be selected for the orchard. All the calculations in our manual are based upon the supposition that the mulberry trees should be four years old before they are picked,—and in all candor we must confess that we are still of the opinion, that they ought to grow that long before they are deprived of their foliage; for we conceive that defoliation at an earlier period would tend to shorten the life of the plant. But those who are desirous of reaping all themselves, and leaving nothing for posterity, may, if they please, reap the fruits of their labor in the mulberry culture, even from the first year upwards,—and now let us see what the product of an acre of ground planted in Morus multicaulis trees one year old, equal in quality with those of friend Sinclair's, would yield.

He fixes the quantity of leaves at 10,080 lbs., and as 1,000 lbs. will feed 20,000 silk worms during their working season so will 10,080 lbs. feed 201,-600 worms, and as 3,000 worms will make a pound of silk, so will the aggregate number make 67 1-5 lbs. of silk, which at $4 per pound, will bring $283 40—the expense of attending an acre in the silk culture, according to our computation, $150,20; this being taken from the gross amount, leaves $129 20, as the profits on an acre, the first year; and we fain would ask,—what can be put in an acre that will yield so handsome a profit?

The estimated expense of attending an acre in the mulberry and silk culture, as assumed by us, we have always considered large, and think so still; but we purposely made it so, in order that we might in its excess, cover all possible contingencies.—From some little experience of the last year, we sincerely believe, that the expense of gathering leaves and feeding the worms might be lessened 33 1-3 per cent., by judicious management, and we are certain that in proportion to the extent of an establishment would the expense be reduced.

The Farmer Intelligent.

Among the manual occupations the agricultural life is most favorable to intellectual cultivation. And these for two reasons. First, there are the long winter evenings, when the farmer having turned from the forests, from which he sleds his fuel for his fire—may sit at that fire and read—read and reflect, with *none to molest or make him afraid!*

Secondly, his occupation itself is so various, requires so much planning, that it is a constant spur to his ingenuity. It is really an exertion of no small judgment to carry on a farm skilfully. He who can do it, must understand the seasons and the soil; he must be able to foresee what crops are suited to each kind of soil. He must understand when it is best to put in the seed—and when the sickle—in a word he is the lord and governor of a little territory, in which he may manifest the wisdom of his plans, and the rectitude of his laws. He must work with his mind as well as with his hands, and the ingenuity of the one will soon be seen as well as the industry of the other.

There is no employment in which the reward of sagacity and penetration is more immediate. A great writer on political economy declares: "After what is called the fine arts and the liberal professions there is no trade which requires so great variety of knowledge and experience. The innumerable volumes which have been written upon it in all languages may satisfy us, that among the wisest and most learned nations, it has never been regarded as a matter very easily understood. And from all these volumes we shall in vain attempt to collect that knowledge of its various and complicated operations, which is commonly possessed even by the common farmer."

In another place he says, "The man who works upon brass and iron, works with instruments and upon materials of which the temper is always the same. But the man who ploughs the ground, with a team of horses or oxen, works with instruments of which the health, temper and strength are very different upon different occasions. The condition of the material which he works upon too, is as variable as that of the instruments which he works with, and both require to be managed with much judgment and discretion." From this he infers that no class of working men have so much to improve the mind and force them upon the judgment and reflection, as those who till the ground.

To all this we must add in our country—that the farmer—owning his soil, and most of his estate lying open to taxation, has a great motive to attend the town meeting; to watch its fiscal concerns; to see that its expenditures are not lavished upon useless objects. This acquaints him with public concerns; it teaches him practically the elements of a republican government. He must also see to his titles to his estate; he must be acquainted with the elements of law and justice. Thus his mind is brought into contact with some of the most important operations of social life.

Again—he sees the works of God on a great scale. He sees him inspiring the instincts of the bee; teaching the insect how to weave her web, or to build her cell; now rearing up the little flower—and now raising the oak to toss its branches in the upper sky; clothing the fields with grass and the vallies with corn; sometimes sending his gentle showers, and sometimes rolling his thunders thro' the heavens. He reads nature, not in books, but on her primitive page, in her original language. He is admitted behind her curtain to be a spectator to her most important operations.

That farmer must have a darkened intellect and a sullen heart, who does not see the wisdom and adore the care and benevolence of an ever operating and all protecting God. Yes, such a man may find a shrine for worship in every grassy mound—a temple beneath every majestic tree.—*Essex North Register.*

The Morus Multicaulis.

A new mode of acclimating this plant to a northern latitude, practiced in Belgium, has been communicated to the Massachusetts Horticultural Society, by a Belgian gentleman. The method is to cut down the plants in autumn, to a few inches above the sod, and to cover the stump with leaves or other matters, and to do this annually, till the roots have acquired size and strength enough to withstand the severity of winter, which is less severe in Belgium than it is with us. The stump sends up shoots in the spring, in proportion to its size, which grow six or eight feet, and afford as abundant a supply of leaves as would a tree upon a single stem, and are much more easily gathered. Any deficiency in product may be made up by planting thicker than for standard trees, as treated in this way the plants may be placed eight or ten feet apart. This mode of culture is successfully practiced with the basket willow, not to preserve it from cold, but to enhance the value of its products—the annual shoots are multiplied, and increased in strength, as the root acquires vigor by age. This plan, we believe, is the best that can be adopted here, with the multicaulis.—*Cultivator.*

The Peach Worm.

Dr. Scott has furnished us, in the *Plough Boy*, with a description of the habits of the insect which attacks the peach tree, about the surface of the ground, and often fatally. The egg is deposited by a large fly, in July, which pierces the outer bark until checked by the cold of winter. Its presence is indicated by the gum which exudes near or at the surface of the ground. The worm resumes its depredations in the spring, and emerges, a perfect insect, late in June, or early in July. The doctor's remedy is, to put ashes about the collar, or lower part of the stock, and particularly in the spring. The worm is then below the surface, and the rain which percolates through the ashes, becomes a ley, which settling into the worm hole, destroys the insect. Whatever prevents the eggs being deposited near the surface, as covering the lower part of the stock with straw in the spring, so that the frosts of winter may destroy the insects ere they penetrate the ground—or whatever will destroy the worm when under the ground, as the alkali of lime, ashes, &c. will preserve the peach treee from the depredations of this insect.—*Ib.*

COMMUNICATIONS.

Education for Farmers.

Mr. Tucker—I noticed a few weeks since a valuable article on the proper education of farmers, in your paper, and as the cause of education is one of paramount interest to all, I hope such papers will occasionally be admitted, as shall keep the subject before the notice of the public and tend to the formation of more correct notions on the subject than at present seem to prevail.

Farmers themselves are to blame for the opinion so current among nearly all classes of our citizens, that a small portion of learning, or a very incomplete education is just as good, or indeed rather better, for a farmer, than a greater amount of knowledge; and our system of common schools, in its present arrangement and requirements, has an evident leaning that way. What is required of teachers in order that they shall be qualified to instruct in our common schools? Nothing more than that they should be able to read and write, have a smattering of grammar and geography—for it is but a mere smattering after all which is usually taught in our institutions—and be able to master Daboll. Now all these things are excellent, and perhaps indispensible in ordinary cases; but do they comprise all that should be taught in the common school? Such is not my opinion.

Instead of believing that a more limited system of acquirements will do for the instruction of children intended for farmers, than for others, maintain that a more extended and ample course is requisite. The branches of knowledge mentioned above are perhaps sufficient for the children of the merchant, the lawyer, or the clergyman; but in addition to these things there are subjects which the farmer must understand, or be poorly qualified for the honorable occupation of agriculture. The child of the professional man can scarcely be said to commence his education at the common school; the child of the farmer on the contrary should there receive the rudiments of every kind of knowledge necessary for him, and there acquire the ability for their full development in after life.

To do this the teacher himself must understand; but how few teachers are there, who have any competent knowledge of many subjects all important to the farmer. I need not mention the higher branches of the natural sciences, such as Botany, Ornithology, Entomology and Geology; not one teacher in a hundred has any pretensions to an acquaintance with these topics, though the business of farming is intimately connected with all of them. How many teachers in our common schools are able to instruct their pupils in a chemical analysis of soils, or could succeed in reducing a sample of common earth to its constituent principles? How many of them understand the difference between those common substances, carbonate and sulphate of lime?—two substances, which the improved state of agriculture has rendered almost indispensible to success in farming, and on the proper use of which so much is depending. The elementary principles of chemistry as applied to agriculture, and as taught in the pages of Chaptal and Davy, should be familiar to the young man intended for a farmer on leaving school; yet where among the mass of common school instructors shall we find a man who has devoted time and attention enough to the subject to teach and illustrate it intelligibly.

Farmers, the taunt of ignorance of our own business, with which we are sometimes met, is too true; the evil is a decided one, but the remedy is in our own hands. We must ourselves raise the standard of education; we must say what is necessary for the farmer to be taught, and we must insist on that object being accomplished. Let it be once understood that a competent knowledge of chemical analysis, and the nature of soils; the ability to inculcate the first principles of the sciences mentioned above, and the skill necessary for their illustration shall be required of those entrusted with our schools for boys; and many of these complaints would cease of themselves, for the cause that produced them would be eradicated.

The charge of narrow-mindedness and bigotry has been sometimes alleged against farmers. Now without allowing that farmers are more subject to these charges than their fellow men, I may add that farmers with regard to these things should be like Cæsar's wife—above suspicion. There is a political, religious, and agricultural bigotry, and they all arise from the same cause; *want of general information.* The man who directs his attention to but one subject, is apt to allow that subject to assume a disproportionate importance in his estimation; and gradually to admit nothing right that does not precisely conform to his established views of men and things. Let the business or profession of such a man be what it may, his mind will infallibly become narrowed and bigoted; as constantly viewing one object, impairs the vision, and renders it incorrect for all other purposes. To avoid such a result, the farmer should not only have a particular knowledge of his method of agriculture; but he should have a general knowledge of the principles on which the science is founded. The man who has this information, is the last to imagine he has reached the highest point of excellence in cultivating the soil, or that nothing can be learned from the experience or observation of others. Such a man cannot be a bigot—his mind is open to improvement—he is willing to be convinced of error. We should always look with suspicion on the state or attainments of the man who imagines he has reached perfection on any point; or that he alone is wise, and all wisdom will perish with him. G.

Characteristics of a Good Road, &c.

No. II.

We have spoken already of good roads, and shall have occasion to speak more of them, in the progress of these essays. That those who read the essays may know what we mean by the phrase *good roads*, explanation will be needed. When we speak *of good roads*, we mean such as will admit of easy, safe and expeditious traveling, in any of the customaty modes, eight or nine months, every year, including two months of sleighing in the winter. Of course the roads must be hard and smooth, divested of stones and every other obstacle which might impede safe and expeditious traveling. The sluices too and the bridges, must be good, and be kept in good repair. In the characteristics incident to good roads, as thus briefly given, it is believed a proper road standard, and the best now within our reach, has been suggested. In the progress of time, and as improvements shall advance, higher attainments may be expected, and a more perfect road standard will be required. To McAdamize, and thus render perfect all our common roads, or even a small part of them, would render improvements too slow for present exigencies, and require an expense which we are not now able to meet. It would not be wise to attempt it, we think not on the smallest scale, certainly not in an ordinary case. It is, if we mistake not, our wisdom to aim now at such improvements only as can be speedily effected, and rendered general in all parts of the country. If we can adopt a scale of improvement by which all our common roads can in a very short time be rendered *good*, eight or nine months in a year, and be bad at no time, with this, it is our opinion we ought *now* to be content. Of the practicability of speedily making improvements to the extent thus named, and that too without increasing, but rather alleviating the burdens of taxation, we have not the least doubt. Some of the methods by which it is believed important and highly valuable improvements in the condition of our common roads, can be made, will be suggested in the progress of these essays.

We are compelled now, by the subject on which we have undertaken to write, to advert to the system of laws now in use in this state, for the regulation of highways. The system has become the subject of very great and general complaint. As its defects have been detected and publicly exposed, it will not be necessary in these essays to dwell on the details of its imperfections. It will be sufficient to say a very general conviction prevails that the system is altogether inadequate to the exigencies of the times. Such is our own conviction, and we are satisfied that so long as this system continues in use it will be in vain to look for any considerable improvements in the condition of our common roads.

If then the system needs a radical reform, as it is believed nearly all will admit that it does no good reason can be assigned wherefore such a reform should not be immediately attempted. Nothing will be gained in this case by procrastination. True it is that in many cases popular attachment to ancient usages is so strong, that nothing but a conviction of absolute necessity, and scarcely that, will overcome it. The road system of this state has become venerable for its antiquity, and probably it was, in the infancy of the country, as good or nearly as good a system as could have been devised. It is scarcely to be expected that at this time, or at any time hereafter, its overthrow can be effected without producing to some small extent, popular complaint and censure. If it be found that its immediate abolition will produce dissatisfaction among a portion of community, and for this reason action be deferred, the same objection will continue to exist, and if deemed valid it will be the means of subjecting the people of this state to the perpetual endurance of bad roads. But the evils resulting from the bad condition of our common roads, should be deemed intolerable, and their remedy should be sought for and applied without needless delay. It is not expected that an entire change in the most prominent features of our ancient road system can be made without producing some inconveniences. The new or altered system itself, however perfect it may be, and however well adapted to the uses for which it is designed, will require a special momentum to put it in motion. It must be expected that its first motions will, like those of newly fabricated machines, be slow and heavy. Nor should it be expected that our system of road laws can, at once, be so altered and modified as to be rendered perfect, or nearly so. The lawgivers of the state should not forbear to act because they may not be convinced that the proposed plan of alteration is, in all respects, the very best of which the case admits. We cannot expect in this case, even to approximate to perfection. It cannot be doubted that experience will from time to time suggest amendments to any new system of road policy that can be adopted. Legislators should, in this case, wish only to be convinced, that the existing system, whatever may have been its fitness for use in former times, has become inadequate to present exigencies; that it involves a prodigious waste of public revenue, and subjects the people of this state to the endurance of intolerable evils in the bad condition of common roads. That such is the character of our present road system, and that all these accusations against it are well sustained, it will, we are satisfied, require only a knowledge of its principles, together with their practical results, to be convinced. D. B.

Onondaga county, January, 1837.

Propagation of Fruit Trees.

"The propagation of living beings by means of ova or seeds, is a process totally different from their multiplication by mere slips or buds, and the products of the former retain less of the peculiar characters of the individual from which they spring, than those of the latter. This is remarkably exemplified in the case of orchard trees, such as apples and pears; for all the trees which derive their origin from shoots, or grafts from the same individual, partake of the same properties, and produce a fruit of the same flavor and qualities; whereas trees, of the same species which grow from seeds, have the characters of distinct individuals, and losing all the peculiarities that may have distinguished the parent, revert to the original type of the species to which they belong. Thus, from the seeds of the golden pippin, or ronpariel, arise trees bearing the common crab apple, which is the natural fruit of the species. *By continued graftings, after a long period, the vitality of the particular variety is gradually exhausted, and the grafts no longer bear fruit.* This has already happened with regard to the two varieties of apples just mentioned. For these curious facts, and the theory which explains them, we are indebted to the observation and sagacity of Mr. Andrew Knight."

The above, which we copy from Roget's celebrated work on "Animal and Vegetable Physiology," advances opinions, we imagine, contrary to those generally entertained by horticulturists. The doctrine that continued graftings will exhaust the vitality of a variety of fruit, and render it unproductive,

we should be unwilling to believe, without the most conclusive evidence. Such perhaps would be the testimony of Mr. Knight, referred to by Mr. Roget, and who is well known as a cultivator of fruit trees, to be only excelled by Van Mons of Belgium; and it is principally for the purpose of drawing the attention of the editor of the Farmer, or some of its correspondents, to the doctrines above stated, that we have made the quotation at length. There was a time, we believe, when it was contended by some that grafts being only a continuation of the life of the tree from which they were taken, they must be subject to the same laws which governed the parent tree, in growth as well as decay; and as proof of the doctrine, the case of the chestnut trees at St. Helena produced by grafts from the Cape of Good Hope, which flourished as long as the parent tree lived, but when that died soon went to decay, was adduced. If Mr. Knight's theory, which explains the position taken by Mr. Roget, can be given to the readers of the Farmer, it would at least oblige, and perhaps satisfy the doubts of PYRUS.

Patent Reflecting Baker.

If we were asked which, in our opinion, of the multitude of new implements, utensils and inventions that within a few years have been offered to the public, has the most combined economy and utility, and contributed to lessen domestic labor, the answer would be, the *reflecting baker*, or patent tin oven. It may seem a little singular to call the attention of farmers and their wives to an article so long before the public, and of such undisputed utility; but there are, we are sensible, thousands to whom the excellence, or even the existence of the reflecting baker, is unknown.

Where open fire places are used, as they are by a majority of our farmers, the patent baker is indispensable, if comfort and ease in cooking is consulted, or economy in the consumption of firewood made of any account. They require no addition of wood to the fire, interfere but little with the heat thrown into the room; bake bread, or meat, or potatoes with equal facility, in short are adapted to almost every office connected with the culinary department. By the use of the "baker," the "great pile of oven wood" which is required where this utensil is unknown, is saved; and the cost of procuring, and the labor of splitting, at once done away. If this notice meets the eye of any farmer whose kitchen is not already provided with a reflecting baker, we say to him—go to, now, and buy thee at once a tin oven. and the expenditure will hardly be regretted.

A. B.

Utility of Agricultural Papers.

MR. TUCKER—I have never before written an article intended for an agricultural paper; and whether any thing I may offer for publication in your Journal, either now or hereafter, shall be worthy of a place in its columns, it will, of course, be left to you to decide.

The first hint which I wish to throw out before the public, respects the importance of a wider and more general diffusion of agricultural information. I rejoice that an increased attention has, within a few years past, been paid to the subject of agriculture in this section of the state. To this the Genesee Farmer has in no small degree contributed. Many, understanding their true interest in this respect, have become patrons to this or to some other agricultural paper. But it is a matter of surprise that when the value of such a publication has been so abundantly ascertained, *nineteen-twentieths* at least of our farmers refuse to avail themselves of the benefits to be derived from this source of knowledge. But so it is, and so it always will be; there are men, a part of whose education it seems to have been, that as their fathers did, so they must do; who can never be persuaded to believe that improvements are to be made in any thing.

Men are generally apt to learn and practice what promotes their interest. But not so in this case. I doubt not that every tiller of the soil, though he should possess but a single acre, would, if he were disposed to profit by the information to be derived from it, *make money* by taking an agricultural paper; and most of our farmers would be benefited to an amount of ten times that of the cost of the Genesee Farmer.

The reason why so many neglect this means of advancing their own interest is, I believe, that they consider what is communicated in this way to be mere speculative theories. They seem not to be aware that it is the results of the combined experience of the most successful *practical* farmers, which are here collected together, and from which all may derive some profit. For myself I should as readily dispense with almost any utensil or instrument of husbandry, as with an agricultural paper. And not until it shall be universally regarded as a family *necessary* do I expect to witness such a state of improvement in the science of agriculture, as it is desirable our country should attain.

These suggestions, sir, are intended for those who do not take or read your paper, and who will, of course not be likely to profit by them. I would, therefore, suggest one thing more. Let every subscriber who is willing to do his neighbor an act of kindeess, hand him this paper, and request him to read what is here written by one who always rejoices to see the farmer prosper. A. W. Y.

Value of Apples for Feeding.

INTERESTING EXPERIMENT.

At a late meting of the Hartford Co. (Ct.) Temperance Society, a Report was made on improvements in Agriculture in their relations to Temperance, from which the following extract is taken, furnishing as it does the result of several experiments to test the value of apples as food for animals:

Joel Clark, Esq. of East Granby in 1835, for the first time instituted an experiment for testing the value of Apples as food for horses, and for fattening swine and beeves. At this time he was altogether incredulous upon the subject. The result was conclusive proof to his mind of their being decidedly beneficial. The present year he has pursued the same experiment with precisely the same results. Last year he slaughtered two hogs which weighed little over 400 lbs. each. This year he has slaughtered the same number, a smaller sized animal, one weighed 348, the other 328. They were fed in both cases exclusively on raw apples, sour and sweet promiscuously, until a short period before being butchered, and the pork is the very first quality. In August last he discontinued the milking of a cow, which he had designated for fattening, and turned her into the summer pasture with his young stock. On the first of October he removed her to rowen feed and commenced feeding with apples. The most she would have commanded in market at this time was 13 or 14 dollars. He kept her 7 weeks giving her night and morning as many apples as she would eat which was juts about a bushel a day. The thrift was such as to excite the particular notice of himself and hired man and equal to that of any animal on any kind of feed. At the expiration of the seven weeks he sold her, and to be still better able to know the result of his experement he rode 4 miles to see her slaughtered. A better beef is seldom found than this proved to be. He received $28 30 for her, that is $14 30 gain for 7 weeks, or allowing two dollars and thirty cents, for the pasturing, about two shillings a week, he received $12 00 for the fifty bushels of apples or at the rate of 24 cents per bushel. Now these fifty bushels of apples converted into cider would yield six barrels. These in 1835 delivered at the distillery would have commanded from 42 to 50 cents, per barrel—say three dollars for the whole. In 1836, the same delivery at the distillery would commaud from 75 to 80 cents, say, however, 6 dollars for the whole. According to the last computation then there is a gain of 6 dollars in 12 in favor of feeding apples. He fed at the same time and in the same manner a two year old heifer and with results more favorable rather than less. Though not the largest of his herds he weighed on being slaughtered 572lbs. What farmers who understand at all the article of profit and loss in the use of the products of his farm and consults his pecuniary interests simply will be surprised to know that this gentleman has already commenced operation for constructting a cellar under his barn for the purpose of preserving his apples for feeding his stock during winter?

His orchards have produced 150 barrels of cider, even more in a year, which he has sold to the distiller for fifty cents per barrel because he knew no more profitable manner of disposing of it. Now this quantity of apples, necessary to make 150 barrels of cider upon the above estimate, would yield according to the results of his experiment in feeding this year, $300. Making a difference of 225 dollars, no trifle surely in the products of one man's orchard; or if you value the cider, at one dollar per barrel the difference is 150 dollars, a tax no prudent farmer ought to pay for the purpose of enriching the distiller of cider brandy.

But then to what can the farmer feed out all the products of his orchards? He will not surely wish to make yearly so much beef and pork as to consume the whole amount. Let him feed them to his horses and cows and young stock. By all writers on the subject of raisiug stock it is contended that farmers greatly mistake their interest by stinting their young cattle or confining them to such fodders during the winter as will barely sustain life. Let the young stock be treated to a moderate quantity of apples every day and kept in good heart and thrift and the farmer will in the end realize his profit. In view of these facts good economy does not urge the expediency of prostrating apple trees that are thrifty and productive of good fruit. Some trees there are which are literally cumberers of the ground. Let such be removed. But let all others be protected and when circumstances will permit let their fruit be inproved by iugrafting.

Lime Spreader.

The difficulty of making an uniform distribution of any given quantity of lime on an acre of ground, and the injury experienced by laborers engaged in the operation, have long been felt by the Agricultural community, and we are, therefore, happy in believing that both these inconveniences have been obviated by the invention of our ingenious townsman, Francis H. Smith, Esq., who we believe has succeeded in so constructing a cart that any given number of bushels either stone or shell lime may be equally spread over the entire surface of a field of any dimensions. His cart has been submitted to the test of practical experiments upon the farms of several of the gentlemen in this vicinity and as we learn, gave the most decided satisfaction in every instance. The last experiment is thus flatteringly spoken of by several of our most extensive and intelligent land holders, and from our personal knowledge of the accomplished gentleman's acquaintance with mechanics as a science, we have no doubt it will recieve the approbation of the entire farming and planting interests:

LIME SPREADER.—Having this day witnessed at the Orange farm, the operation of F. H. Smith's machine for spreading lime, we cheerfully unite in giving our opinion of the result. The shells were thrown into the cart direct from the kiln. These were sufficiently ground up and distributed uniformly over the land as the cart was moved along. We are of opinion that no manual operation could do the work so well. The quantity per acre, judging merely from observation, in the three several degrees exhibited to us, was about 50, 100 and 200 bushels. It is evident however, that the quantity may be regulated at pleasure. This experiment was made with *shell* lime. One of the undersigned has with the machine coverd seven acres with *stone lime*, with great expedition and to his entire satisfaction.—We are of opinion that it is equally adapted for spreading ashes, marl or any friable manure.—We are so well pleased with the machine that we have each of us ordered one from Mr. Eastman.

J. W. PATTERSON,
JAMES SWAN,
ROBERT GILMOR, JR.
S. W. SMITH,
WM. DONNELL.

J. S. Eastman has now put twelve of the above machines in hand which will require six or eight weeks to complete. Part of them are already engaged; those who wish to have it in time for operating in the Spring, are advised to leave their names at his Agricultural Warehouse in Pratt street.

The cost of the machine, including the patent right, is $200. To apply the machinery to a wagon or cart 145. In five minutes the machinery may be detached, and leave a useful plantation cart.—*Baltimore Farmer.*

Observations relating to the Planting, Management and Culture of Fruit Trees and Plants.

Having been frequently applied to by persons about to procure trees and plants from the Nursery, for instruction how to plant and manage them, and this happening often at a time when the pursuits of business render it very inconvenient to give the information required; and as the success of planting trees depends much upon the treatment they receive after they leave the nursery till they have passed over the first summer,—I offer the following observations for the use of those who are about to plant and have not had as much experience as myself:

Season of planting.—The delight peculiarly attached to spring in the conduct and management of our rural concerns, may be supposed naturally to have a strong influence in governing the mind of many, in making choice of the vernal season, it having become the season the most generally adopted for engaging in this interesting branch of improvement, while it is sufficiently evident that the weight of experience will be found in favor of planting in the fall especially in those parts of the country subject to severe drouths; as trees planted in autumn are less liable to suffer from this cause, than if planted in the spring.

When we consider how very short our spring is, we ought to plant our large shrubs in the fall, and open weather in winter; for the necessary vegetable and flower garden, transplanting flowers, herbs, and other small articles that would be in danger of being thrown out of ground, if transplanted in the fall by frost, will be as much as most people will be able to accomplish during our short springs. On this subject there is much truth in an assertion of that shrewd scientific writer, Wm. Cobbett, where I think he says in some of his writings, "a person in America would hardly think of there being any spring the winter being so soon succeeded by summer heat." Our autumns are mild and so pleasant as to be the admiration of most European visitors, affording the opportunity from the 15th of October to hard frost, which seldom interrupts transplanting in this latitude before the fifteenth of December. But if other business should interrupt fall planting, large trees and shrubs may very safely be planted in the spring from 1st of March (sometimes earlier) to the fifteenth of April and many small matters and all the evergreen plants much later in the spring, it being much the best season to plant those last.

Arrival of the trees at the place of their destination.—Immediately on the receipt of the trees from the Nursery, have the bundles carefully opened, and have a trench dug deep enough to receive the roots below the surface in a compact manner, with the bodies of the trees in a slanting position, then fill in some fine mould on and among the roots of the trees, and water them both roots and mould, till all is very moist, and cover all up till preparation is made for planting, which ought to be done before the trees arrive. Another excellent way to preserve trees is to plunge the bundles of trees, especially the roots, into water, where they will keep safely for a long time.

Method of Planting.—The holes for planting should be dug at least two and a half feet diameter, and about two spits or eighteen inches deep, casting round the lower spadefull, and using only the top one for planting the trees, which, if insufficient use the surrounding top soil, or other equally good or better, brought from elsewhere for the purpose. Mixing any sort of manure when planting is considered injurious, but may be usefully applied around the trees as a top dressing. Before planting, trim off the bruised parts of roots, and trim off the tops of trees freely, leaving them as light as possible, preserving merely the form of a head; shortening the branches, especially the leading shoot, is considered injurious.

Before the trees are set in the holes, shovel in some good mold, in order that the tree may not be planted more than two inches deeper than they stood in the nursery, and spread the roots of the trees equally around on the said mold. In filling up the hole care should be taken to make the earth fine, in order that it may run in among the roots of the tree, which may be promoted by gently shaking the tree as it is thrown in—water the roots well, then fill the hole up level with the surrounding ground; drive in a strong stake on the north-west side, and fasten the tree to it by a band of damp straw, passing it several times between and around the tree and stake, so as to keep it steady and prevent the wind from chafing it; in dry weather, during the first summer, the trees ought to be watered occasionally; once a week will be sufficient if done plentifully, so as effectually to wet the whole space occupied by the roots; some half rotten litter spread round the tree during the summer, would be useful in preventing the rays of the sun and the wind from dissipating the moisture—but it should be removed in the fall, as it might be a harbor for mice during the winter, who would be apt to injure the trees by feeding on the bark and roots. ROBT. SINCLAIR.

—*Farmer and Gardener.*

On the Culture of Rye.

There is no difference between what is called winter and spring rye. Winter rye, by sowing it later each year in the fall, will acquire a habit and quality by which it may at length be sown in the spring, and then it is spring rye; or take spring rye, and sow it very late in the fall, and then a little earlier each succeeding year, and it will become confirmed in the habit of winter rye.

One circumstance favourable to the cultivation of this kind of grain is, that it will grow year after year on the same soil without exhausting it, provided the stubble be constantly ploughed under, immediately after taking off the crops. Another circumstance peculiar to this plant is, that it will grow very well, and produce the best grain for bread on a thin gravelly soil, and will flourish well too on the richest.

There is an instance mentioned in the Farmer's Assistant, of a gravelly soil being highly manured, and sowed with rye, in which the rye was twice successively eaten off close to the ground by sheep breaking in after it had acquired a height of nine inches the first time, and six inches the latter.—These croppings, however, only served to make it grow thicker and stronger than before; and when harvested, it produced at the rate of one hundred and twenty-eight bushels to the acre. The author of the above account supposed that the crop would have been lost by lodging, had it not been for the two successive croppings of the sheep, and suggests the expediency of trying sinular experiments with wheat.

It has been remarked that winter rye may be sowed early in the spring and used as pasture during the season; and that it may be sown at the usual time, and serve for a sheep pasture a while during the next spring, without injury to the crop. It may also be mowed for hay two or three times during the summer, when sown in the spring. But in such culture, the ground should have much more seed than the usual allowance, which for early sowing in the fall is about a bushel to the acre, or a bushel and a half for later sowing. Spring rye, it is believed, should have this latter allowance, and be sowed as early as the ground can be well prepared.

Rye, that is intended for family use, should if the weather will admit, be harvested even as early as the rye is yet in the milk, and left to lie on the ground for some days to dry and harden. By such management the grain will make a much whiter flour, though perhaps not quite as heavy as when it stands till it is fully ripe.

When rye is sown successively on the same soil, the stubble should be ploughed under as soon as the crop is taken off, which helps to improve the ground and serves to destroy the seeds of weeds. It should then lay until about the first of September, then ploughed again, and the crop harrowed in. Some have supposed that in this way the crops will increase in quantity.

Rye is subject to a distemper, called the spur. The grains which are affected with it are larger than the rest, mostly crooked, bitter to the taste, projecting beyond their husks, dark colored, rough, and deeply furrowed from end to end. This kind of diseased grain sometimes proves very destructive to those who eat it. In some parts of France, where the disease prevails most, the peasants who eat it are liable to be attacked with a dry gangrene in the extreme parts of the body which causes those parts to drop off, almost without pain. "The Hotel Dieu at Orleans," says Duhamel, "has had many of these miserable objects who had not any thing more remaining than the bare trunk of the body, and lived in that condition several days." It is not every year that the spur produces these effects, and it is said that if the grain be kept a certain time before it is eaten it will not be hurtful. It is thought, however, that no very bad effects have been known in this country from eating this kind of rye.

When we consider that rye flour mixed with corn meal makes a wholesome and valuable bread, and can be raised on light soils, which under some circumstances may be devoted to that crop, better than to any other; and when it is considered too, that it is not an exhausting crop, the raising it cannot be considered an unimportant article of domestic economy.—*Farmer's Library.*

[*From the New-England Farmer.*]

MR. EDITOR—In a late number of your paper I noticed an article on "*Ashes as a manure for grass lands*," and Count Chapel is cited as authority for applying leached or bucked ashes, to wet or clayey land; and he thinks they possess the property of amending such land, by dividing and drying it, and of promoting vegetation by the salts they contain.

So far as I can obtain information from experience and otherwise, leached ashes are more beneficial to dry sandy loams, than to wet or clayey lands. Leached ashes are, undoubtedly, beneficial in prolonging vegetation, and when they can be obtained at a low price, will pay for the carrying on to such loams, merely for the purpose of *improving the texture of the soil.* They operate on such soils to make them more compact—more retentive of moisture, or as we sometimes say, more heavy. Ashes do not render any lands more light. Clayey or wet lands, therefore, should not receive them in large quantities. They make them mossy and more barren, after a few years, though they may improve the first year's crop.

Such ashes are, probably, worth more than as large a quantity of clay to improve the texture of light loams, as the remains of lye and lime, left in them after leaching are stimulants to vegetation.

Unleached ashes or lime, when applied to any soil, produce the greatest effect when the soil is full of vegetable matter. Hence it is that they are both more beneficial to green-sward soil, or to any soil filled with vegetable substances, than to soils which have been for some years in tillage.

Their principal operation is to decompose this matter and render it fit for the food of vegetables. It is well known that a strong lye will decompose or render rotten any fibrous matter immersed in it. Yarn is often ruined in this manner. Some time since I purchased a new brush, to be used in washing apple trees, &c. with lye. The lye was very strong, and in two hours the brush was decomposed to atoms. It was mere manure. Unleached ashes, should, therefore, generally be applied to green-sward, and lime, so far as I can perceive, operates like ashes.

Count Chapel appeals to the well known effects of ashes in the case of paring and burning. But such ashes, made from peat, are totally different from wood ashes. They have no lye in them, and do not seem to act as a decomposing power. Hence though they operate well on lands in grass, much better than wood ashes, they are not of half the value, when applied to corn and green-sward that wood ashes are.

I observe that M. Puvis, in his dissertation on the operation of lime as manure, ranks it with wood ashes. But he places peat ashes in a different class of manures.

When I object to the application of wood ashes to wet and to clayey land, I do not include peat bottoms. These in truth are our lightest soils. They are also filled with vegetable matter, and only require that they should be rotted to yield us the largest burthens. Yours, very respectfully,

WM. BUCKMINSTER.

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By the Editor—The article alluded to by our esteemed correspondent, was published in the current volume of our paper, page 197. We do not recollect from what source it was derived, but believe it contains erroneous views, which are pointed out by Mr. Buckminster. But the writer of the ar-

ticle which has led to Mr. B's strictures is not alone in (what we think are) his erroneous views of the subject. Deane says, "a few bushels of ashes on an acre, are a good dressing on grass lands that *are low and inclining to be mossy*." But most writers and practical cultivators are of opinion that ashes succeed best on dry, loamy lands, or loam mixed with soil. They possess an attraction for moisture, and if applied to a soil naturally wet, they add to its defect, and diminish its fertility, by making it more moist than it was before the application. See N. E. Farmer. vol 2, p. 322.

Mineralogical and Geological Shool.

A proposition has been introduced into the Pennsylvania Legislature to establish a college to be supported by the State in which the following sciences and arts are proposed to be cultivated:

1. Geology, Mineralogy, and Chemistry, as applicable to agriculture, architecture, the construction of canals and roads, the digging and boring for water, &c.

2. Mineralogical Chemistry, exemplifying theoretically and practically, the most approved and economical method of analyzing ores, earth, combustibles, and soils, mineral waters, &c.

3. The theory and practice of mining and mineral engineering—with reference to the geographical and geological position of mineral beds and veins—with the discrimination and discovery of minerals in rocks and soils.

4. Theoretical and practical Metallurgy, or the art of reducing and smelting ores, and of separating them from foreign substances, and from each other; also the mode of making the best combinations and alloys of metals, and in the arts.

It is further contemplated to establish in the said college, a collection of specimens of all the important rocks, foundations, and all the minerals found in the State, properly and scientifically arranged, with their names and localities—together with a description of their chemical character, composition, specific gravities, and their use in the arts.

Also a similar collection of all useful or curious foreign minerals, with their names, uses, &c., together with such information in relation to the same, as will be calculated to lead to their discovery in the State of Pennsylvania.

Tarring Seed Corn.

As the season for planting corn is approaching, permit me to recommend an article in the 14th vol. 59th page of the *American Farmer*, to the perusal of your readers, upon the subject of preparing or tarring seed corn, as a means of protection against crows, hens, black birds, and all others of the feathered tribe. In case the work should not be at hand I will give the substance of the article, which will be sufficient for any one who is disposed to try it. The process is as follows: "Take a peck of corn and pour on it hot water, [without detriment); after standing a few minutes, draw off the water. The tar having been warmed sufficiently to reduce it to a fluid state, is then applied to the corn in small quantities, stirring at the same time, until all the corn is thoroughly daubed with tar. Then apply plaster, ashes or lime, one of these substances, intermixed with the corn will prevent cohesion and give better thrift to the crop. A peck of corn is as large a quantity as will be found convenient to operate upon at a time. A quart of tar is sufficient for a bushel of seed. The tar, however, should not be applied sparingly. No injury, to my knowledge, has ever been done to seed, by any part of this process. I have practised preparing my seed corn in this manner for more than thirty years, and can recommend it as an effectual security against all manner of fowls that have been known to disturb corn-fields." It would seem, perhaps, that the author of the above, was rather sanguine in his assertions; but if any statement of mine, as an anonymous writer, will have any bearing, or corroborate those assertions, I can bear testimony to most of the facts therein stated. The tarring process has been practised upon my farm for several years and as far as it has come under my observation, I believe it to be an effectual security against the depredations of the whole feathered family. But there is another advantage from tarring corn, which is, that plaster adheres more readily, and in a much larger quantity, which is a matter of much importance in this section of country.—*Farmers' Reg.*

Fattening Hogs.

On the first day of December, four shoats of the same breed, nearly of the same size, and as much alike in every respect as could be selected from a herd of 90 odd hogs, were made choice of; each carefully weighed and placed in a separate stye, where their food could be exactly regulated. They weighed between 81 pounds and 100. The two whose weights together made 185 ponnds, were fed on one gallon of shelled Indian corn weighing seven pounds to each, for every 24 hours, and as mnch water as they wanted. This quantity of food was a plenty for them; generally they abont consumed it. Some five or six different days between the first of December and the 4th January, the time the experiment was going on, they did not eat their whole allowance.

For the two shoats, whose weights together made 173 pounds, seven pounds of good Indian corn meal, by measure ten pints, were made into good mush or hasty pudding, and divided between them for every 24 hours. That is these two had allowed them exactly half the weight of meal which the others had of raw corn. The seven pounds of meal were daily mixed with scalding water, and then well boiled; the whole process of cooking was done on an average in 1½ hours. They were all fed twice a day, and at the same time. The evening feed of the shoats fed on mush, was generally warm—the morning feed, having stood all night, was always cold. The seven pounds, or ten pints of meal, when cooked, weighed an average of thirty pounds, and measured an average of three gallons. There was a difference of nine pouuds in the weight of the latter pair—the smallest had the least appetite and his allowance of 15 pounds of mush was as much as he appearred to want, or would eat up clear; the other was greedy, and always sharp set, despatched his mess quickly, and wanted more.

Before the experiment had progressed a fortnight, there was a very perceptible difference in the appearance of these pigs. Those fed on the mush assumed a more thrifty, healthy, fresh appearance, particularly of their hair, and this difference became more striking as the experiment advanced.

On the 4th of January, while preparations were making for killing and dressing, they were again weighed on the hoof. One of those, then, whose daily allowance had been seven pounds of corn each, had increased 20 pounds in the 34 days; the other, which had had an equal allowance of corn, had increased only five pounds. I could not account for the difference by any thing I could discover, either before or after killing; the appetites of these two were much more alike than of the others; and their health was apparently equally good.

Of the pair fed on mush, whose daily allowance had been 3 1-2 pounds of meal each, the greedy one had gained 23 pounds and the other 21 pounds.

These are all the material facts in these experiments except that a very small portion of salt was put into each mess of mush—and there is no miracle in them. The hogs allowed 3 1-2 pounds of meal, each gained less than three fourths of a pound daily and this surely they might have gained from the meal; but they gained more than those fed on double that quantity of corn. The saving of one half the immense quantity of corn consumed in raising and fattening hogs in Maryland, would be well worth the offer of a premium to have these experiments accurately repeated and tested by different persons.—*New-England Farmer.*

Manufacture of Beet Sugar.—We copy the following from the Journal des Debats, a French publication of April 15, 1836, for the purpose of showing the simplicity of the process of manufacturing beet sugar, and the little expenditure which is necessary to prosecute the business on a small scale. "Four residents of the village of Wallers, department of the north, one a blacksmith and the other farmers, formed, some months since, an association for manufacturing beet root sugar, with a capital of 400 francs [$75,00] in four equal shares of 50 francs a piece. They were able, every day, to make a loaf of sugar of medium quality, weighing from 40 to 50 pounds. The following is their simple mode of manufacturing the sugar. They used curry combs to rasp the beet roots with, and linen bags for expressing the juice; the syrup thus obtained was boiled in the family iron pot, on the blacksmith's fire. By these simple means they were able to make a loaf every day." If with this rude apparatus these men were enabled to make 40 or 50 pounds daily, cannot every farmer, with a trifling expense, furnish himself with machinery for making sugar for his own consumption?—*Silk Culturist.*

The Road Laws.

The following petition, which is in circulation in Livingston county, has been sent us for publication. It exhibits another proof of the opinion which is rapidly gaining ground, that some alteration must be made in the laws in relation to Highways, as it is believed that a system less calculated for present exigencies than the present, could scarcely be contrived. No time should be lost in forwarding petitions to the legislature, if any amendment is hoped for the present year.

To the Honorable the Legislature of the State of New-York, in Senate and Assembly convened:

The undersigned, beg leave respectfully to invite the attention of the Lsigelature to the following defects, which they believe, to attend the opperation of the law imposing a Highway Tax, and directing the application thereof to the improvement of the roads.

The law as it now exists, imposes a poll tax, which your petitioners believe to be repugnant to the spirit of our institutions, unjust and impolitic.

The law authorises individuals to work out their tax by manual labor, by teams, carts, wagons, and other implements. This provision opens the door to numerous evasions, and the overseer of highways directing the labor of his neighbors does not possess the means, and seldom has a desire to enforce the rigid performance of their duties. It is belived by the undersigned that the tax imposed and applied under the present system does not effect as much in improving the highway as would be accomplished by one half the amount levied in money and expended under proper agents in labor, employed by the day, or in job work.

Under the present law, the tax being collected and applied in small road districts, as much labor is oftener and indeed generally applied to the improvement of roads, unimportant and little traveled, as is applied to the great thoroughfares leading to navigable waters, and market Towns, which being much used, should not only be made better than mere neighborhood roads, but which require a much larger expenditure to keep them merely passable.

It is believed that these defects would be in a great measure remedied by making the highway tax exclusively a property tax, by requiring it to be paid in money, and laid out by the Commissioners of Highways, who should be authorised to employ as many overseers of highways as may be deemed necessaary.

The ammount of the tax to be raised in money, might, betwen certain limits, as for instance, twenty-five cents and fifty cents for each day's labor now assessed, be left optional with the Towns.

The undersigned believing the present system to be in its operation onerous, unequal, and inefficient, beg leave respectfully to recomend the subject to the early attention of your Honorable body.

☞ List of payments unavoidably postponed until next week.

Morus Multicaulis.

JOSEPH DAVENPORT offers for sale 50,000 plants of the true Chinese Mulberry, or Morus multicaulis. Trees will be carefully packed and forwarded as early as desired. Orders must be sent to Colerain, Mass. till the 15th of March; after which time to Hartford, Ct. All inquiries will be attended to at his plantation, 5 miles south-west of the city. Early orders only will be supplied, as arrangements will be made to use all not called for soon.

Colerain, Jan. 23, 1837.

Brighton Nurseries.

FOR SALE, 20,000 Morus multicaulis, or Chinese Mulberry Plants, warranted the true and genuine kind. Orders addressed (by mail) to Messrs. WINSHIP, Brighton, Mass. for Mulberry, Fruit and Ornamental Trees, Shrubs, Creepers, Herbaceous Perennials, &c. &c. that are cultivated in any nurseries in the United States, with a first rate collection of Green House Plants, will receive prompt attention, and, if required, forwarded to any part of the Union.

Brighton, Jan. 18, 1837. 4t

New work on Beet Sugar.

Mr. Butler has just published a valuable little practial work on the growth of the Beet and Manufacture of Sugar. Edward Church, Esq. of this town is the compiler. Mr. Church has resided in France many years, and has, from observation there, been intimately familiar wtih all the details ot the business. With the aid of various French treatises on the subject, and his own personal knowledge, it may well be supposed he has given to the public a work of intrinsic merit. We commend this liltle volume to the attention of every farmer, as it embodies in a small compass, a large amount of information, touching the cultivation of the beet and the process of extracting the sugar from it. We detach the following from the compiler's preface:

"Having a property near Paris in 1830, it was my intention to devote it to the culture of the Beet and there to establish a manufactory of indigenous sugar. These undertakings were generally successful in France, and I then was and I still am fully persuaded, that this eminently important discovery must sooner or later prove of inestimable value to our country, and that the experiment I was about to make might prepare me to assist at some future time its introduction. With these views I collected such imformation from books and otherwise as I could, but before my project was matured a Revolution suddenly burst upon France: every thing became unsettled there, and any thing but encouraging for a new undertaking: I immediately renounced my intention and determined to return home. The project which I was forced to forego has ever remained a favorite one, and nothing but an occasion was wanting to induce me to call the attention of my countrymen to the subject of the following pages. That occasion has now arrived, a just sense of the advantages France is gathering from her *Indigenous Sugar* manufactories is fast gainering ground with us, information is eagerly sought, and I am desirous (for want of better) to impart what little I have been able to collect. In this town the matter has lately been taken up in the most spirited manner; some gentlemen have united, and engaged in their service M. Maxamin Isnard, French Vice Consul in Boston, a gentleman every way fitted to render them and the cause the most efficient aid; he was amongst the very first in France to contribute his talents and labors to the success of this discovery, and such was the confidence his service inspired, that he was appointed so early as 1811 by the ImperialGovernment, suprintendent of a school of instruction established at Strasburg, at the public expense, for the purpose of fitting young men to take the management of the sugar manufactories which were then beginning to spring up in many parts of France. Mr. Isnard's chemical knowledge—his experience long since aequired on the subject—his extensive acquaintance with men of science, and those largely interested in the manufacture of the beet sugar peculiary fit him for the mission with which he is intrusted of collecting every information as to the *present state* of the beet culture; and most approved process of extracting its sugar; and the voyage he has lately undertaken with this view cannot fail to produce important and favorable results.

Measures have been already adopted to insure for the approaching season a sufficiency of the sugar beet seed to be distributed at cost to such farmers as may wish to try it; they will be procured by Mr. Isnard himself in France from the best sources and forwarded direct. We have reason to expect to have at our disposal the approaching season, a crop of two or three hundred acres of beets, and the means of manufacturing them into sugar, and the experiment (if it can be called one) will be fairly made in the course of next year. We look with confidence to our legislature for every support and encouragement which our infant enterprise can fairly ask; the liberality extended to the indigenous silk producers will not surely be withheld from us; for if there is any one undertaking which deserves the special patronage of a wise and paternal government, it is one like ours which eminently promotes our first, best, and most permanent source of wealth and comfort, Agriculture. This notice will show how far the Beet Culture fulfils this condition; it will be seen that it does more; for the production of indigenous Sugar, (one of its consequences) creates an entirely new branch of manufacture, and that from a product of our own soil it offers moreover by its novelty a fresh field to that genius and enterprise for which our countrymen stand pre-eminently onspicuous."

Restoring Peach Trees.

[From a Correspondent of the New-York Farmer.]

When I removed in the spring of 1834, to the house where I now reside there stood in the back yard a dwindling yellow leaved sickly looking peach tree, which I was disposed to cut down. It was however spared at the request of other members of the family. Early in the Summer the fruit ripened prematurely; were bitter knotty things, and scarcely fit for any use. I again resolved to cut it down, but upon further consideration it occurred to me that it afforded a fit opportunity for experiment. I accordingly took the earth away from it, and exposed the roots to a considerable depth—upon examination I found the bark for some inches below the surface infested with masses of worms, from the thickness of a straw, to that of a small needle. All of these I endeavored to remove and carefully cut out all the diseased parts of the bark and wood. After this I took hot soap-suds, very strong, and poured it plentifully about the roots and diseased parts of the tree. A short time afterwards either the same day, or a day or two after, I took thick whitewash and coated those parts well with it, and then left it exposed to the action of the weather until winter set in when I filled in the earth about the roots. The next spring the tree evidently bore a more healthy appearance. Still there was here and there a curly leaf, but the fruit was still bitter—prematurely ripe, and imperfect. The past Summer however, the second since the process, it has been as flourishing as any tree I have ever seen, has grown surprisingly, and bore an abundance of large fine peaches of a good flavor. I have no doubt but that a similar course would be found successful in nine cases out of ten in restoring peach trees to a healthy flourishing condition—after they had begun to exhibit strong marks of decay. The whole process cost me but little more time than I have now spent in describing it.

Potatoes.—Every Englishman who goes to the continent, eats potatoes *a la maitre d'hote*. On his return, he is desirous of having them at his own table, a thing that can seldom be accomplished, though the process is very simple. It is as follows: Boil the potatoes, and let them become cold. Then cut them into rather thick slices. Put a lump of fresh butter into a stew pan, and add a little flour, about a teaspoonful for a midding sized dish. When the flour has boiled a little while in the butter, add by degrees a cupful of broth or water. When this has boiled up put in the potatoes with chopped parsley, pepper and salt. Let the potatoes stew a few minutes, then take them from the fire, and when quite off the boil, add the yolk of an egg, beat up with a little lemon juice and a table spoonful of cold water. As soon as the sauce has set, the potatoes may be dished up and sent to the table.—*Magazine of Economy.*

Cure of Lock-Jaw.—Among the norses exhibited at the West Suffolk Agricultural Show on Friday, was a fine cart mare, the property of Col. Rushbrook, which was some time since seized with lock-jaw, and was perfectly cured by poring cold water along the back by a watering pot, without intermission, for a considerable time; the application being recommended by an eminent London veterinarian. This affection has been generally considered incurable.—*English paper.*

Chilblains or frosted feet are cured by bathing the feet in warm water until they are soft, then place them in a basin of cold vinegar for a few moments, and go to bed immediately, and you will rise in the morning free from this disagreeable and vexatious complaint.—*New York Star.*

Potato Bread.—The best of bread may be made by mixing one third potato with two thirds flour. Our fair readers, at least those of the 'working mea's' sort will understand us when we advise them to select the dry or mealy variety of potato. Boil them or steam them leaving them as dry as practicable; peel them; rub them through a coarse wire sieve and work this product into the flour in the same manner that shortening is usually mixed in. The best of all pence are the pennies we save. And this little contrivance brings flour down to the old price.—*Brattleboro' Dem.*

Recipe for French Polish.—One quart of rectified spirits of wine; 2 ounces of seed lac; 1 ounce of shell lac; 1 ounce of gum sandarach; 1 ounce of gum copal; 1 ounce of camphor. Pound the gums and put the whole into a stone bottle; cork it securely, and place the bottle in hot water, shaking it often till all be dissolved. A very small quantity is said to be used at a time, and only a small surface of the piece of furniture is covered with the liquid, and that is rubbed off immediately; a little more is then applied, which is also rubbed off, and this is repeated till the desired polish is obtained. Another part of the table, &c. is treated in the same manner, till the whole surface is polished.—*Magazine of Domestic Economy.*

Application is being made to incorporate a company for manufacturing sugar from the beet; capital $500,000.

☞ STATE AGRICULTURAL CONVENTION.

☞ In pursuance of a resolution adopted at the last Agricultual Convention, we hereby give notice that a State Agricultural Convention will be held at the Capitol, in the city of Albany, on the first Thursday of February next, at 4 o'clock, P. M. at which "all persons are desired to attend who take an interest in agricultural pursuits."

D. S. DICKINSON, } *Secretaries.*
J. J. VIELE, }

AGRICULTURAL PAPERS.

THE publisher of the Genesee Farmer, grateful for the patronage hitherto extended to his Agricultural papers, would give notice that a new volume (the 7th) of

The Genesee Farmer, will commence on the first of January, 1837. It will be enlarged and otherwise improved, and no exertions spared to sustain the high rank it has attained. It is published every Saturday in quarto form, making an annual volume of 416 pages, at $2 a year, *payable in advance.*

The 2d volume of the Monthly Genesee Farmer also commences on the first of January. It is published on the first of each month, 16 pages large octavo, at 50 cents a year—Seven copies for $3—Twelve for $5, always in advance. All letters to come free of postage.

☞ Postmasters, and others in all sections of the country, are respectfully invited to act as agents to procure subscribers for these papers.

☞ Editors with whom we exchange, are reunested to copy the above.

Agricultural School.

AN election for thirty Directors of the New-York State Agricultural School, will be held at the Capitol in the city of Albany, on the 15th Feb. next, at 4 o'clock, P. M.
Jan. 5, 1837.

J. BUEL, L. F. ALLEN, H. YATES, J. DELAFIELD, } Commmissioners. { J. P. BEEKMAN, J. CENTER, W. CUNNINGHAM.

Subscriptions to the stock of the Company will be received by the several commissioners until the day of election.
jan 14 f3

To be Sold,

A VERY excellent Farm, beautifully situated, adjoining the village of Ancaster, near the head of lake Ontario, Upper Canada, about 7 miles from Hamilton and Burlington Bay; consisting of 200 acres (40 chains wide by 50 chains deep.) About 120 are in cultivation. There is a comfortable house, a well, &c. frame barn, a stable, wagon house separate from the barn, a good old orchard in full bearing, and the farm is well watered, having the Ancaster mill stream passing thro' it, and affords a sufficient fall for a flour mill. As two of the surveyed lines of the great western rail-road pass through the farm, the probability is that many village lots may be sold on the line adopted. Apply to the proprietor on the premises, or to the subscriber in Rochester.
jan 14 6t LUTHER TUCKER.

For Sale,

THE valuable Farm formerly owned by General Charle Thompson, situated in the town of Ovid, Seneca county; 3 1-2 miles south west of the village of Ovid, extending to the Seneca lake, containing about 370 acres of land; half of it improved, under a high state of cultivation and in first rate repair the remainder valuable timbered land, a large proportion of it white oak. On the premises is a large well finished two story dwelling-house, wood house, 4 tenant houses, 3 grain barns, with sheds and hay barns, &c.; the stock in which is included. 700 Saxony sheep will be sold with the farm if desired. For further information inquire of Asa Sprague, Esq. Schenectady; David Hudson, Esq. Geneva; or of the subscriber on the premises. WM. R. SCHUYLER.
jan 14 4t